

**Amendments to the Claims:**

The following claims will replace all prior versions of the claims in this application (in the unlikely event that no claims follow herein, the previously pending claims will remain):

1. (Currently amended) An instrument comprising
  - (i) a housing for attachment to a vessel or pipeline through which a process fluid is flowing and
  - (ii) a probe having
    - (a) a shaft which may be inserted into or withdrawn from said vessel or pipeline through sealing means associated with said housing, and
    - (b) an elongated a container for containing a catalyst or sorbent, said container being fixed to one end of said shaft

whereby, by insertion of said shaft into said vessel or pipeline, said elongated container is retractably disposed within said ~~process fluid in a direction transverse to the flow thereof~~ vessel or pipeline; said container comprising an outer container, having walls with orifices therein, and an inner container for containing the catalyst or sorbent, therein whereby part of the process fluid can flow from upstream of said container through at least one orifice in the wall of the container into an upstream region, through said catalyst or sorbent and into a downstream region, and thence through at least one orifice in the wall of the container to the exterior downstream of the container, characterised in that said upstream and downstream regions are free of catalyst or sorbent and are separated from one another by baffle means which, together with the catalyst or sorbent, are disposed so that the part of the process fluid entering the upstream region passes through the catalyst or sorbent to reach the downstream region said inner container being disposed within said outer container such that the inner container and outer container are spaced apart from each other to form an upstream and a downstream region between the inner container and the outer container, said upstream and downstream regions being separated from one another by baffle means, whereby, when inserted into a vessel or pipeline through which a process fluid is flowing, at least a part of the process fluid can flow from upstream of said outer container through at least one orifice in the wall of the outer container into said upstream region, through said catalyst or sorbent

contained within the inner container, into said downstream region, and thence through at least one orifice in the wall of the outer container to the vessel or pipeline downstream of the container.

2. (Cancelled).

3. (Currently amended) An instrument according to claim 1, wherein the catalyst or sorbent is contained within an inner elongated perforate container fixed within an outer perforate container, said inner container having at least one orifice in the upstream region and at least one orifice in the downstream region and baffles between the outer perforate container and said inner container divide dividing said upstream region from said downstream region such that process fluid flows in a substantially axial or transverse manner through said catalyst or sorbent.

4. (Currently amended) An instrument according to claim 3, wherein mesh dividers are present to separate segregate catalyst or sorbent into separate beds within the inner container.

5. (Currently amended) A method for monitoring a process fluid stream or the behaviour of a catalyst or sorbent in said stream using an instrument comprising;

(i) a housing for attachment to a vessel or pipeline through which a process fluid is flowing and

(ii) a probe having

(a) a shaft which may be inserted into or withdrawn from said vessel or pipeline through sealing means associated with said housing, and

(b) an elongated a container for containing a catalyst or sorbent, said container being fixed to one end of said shaft

whereby, by insertion of said shaft into said vessel or pipeline, said elongated container is retractably disposed within said process fluid in a direction transverse to the flow thereof vessel or pipeline;

said container comprising an outer container, having walls with orifices therein, and an inner container for containing the catalyst or sorbent, therein whereby part of the process fluid can

~~flow from upstream of said container through at least one orifice in the wall of the container into an upstream region, through said catalyst or sorbent and into a downstream region, and thence through at least one orifice in the wall of the container to the exterior downstream of the container, characterised in that said upstream and downstream regions are free of catalyst or sorbent and are separated from one another by baffle means which, together with the catalyst or sorbent, are disposed so that the part of the process fluid entering the upstream region passes through the catalyst or sorbent to reach the downstream region said inner container being disposed within said outer container such that the inner container and outer container are spaced apart from each other to form an upstream and a downstream region between the inner container and the outer container, said upstream and downstream regions being separated from one another by baffle means, whereby, when inserted into a vessel or pipeline through which a process fluid is flowing, at least a part of the process fluid can flow from upstream of said outer container through at least one orifice in the wall of the outer container into said upstream region, through said catalyst or sorbent contained within the inner container, into said downstream region, and thence through at least one orifice in the wall of the outer container to the vessel or pipeline downstream of the container~~

comprising the steps of:

- (i) attaching said housing to a valve assembly fixed to a pipeline or vessel through which said process fluid stream is flowing,
- (ii) opening said valve,
- (iii) passing the probe containing a catalyst or sorbent through said sealing means in said housing and thence through the opened valve into the process fluid stream whereby part of the process fluid stream passes through said catalyst or sorbent for a period of time; and thereafter
- (iv) removing the probe from the process fluid stream.

6. (Original) A method according to claim 5, wherein the process fluid stream is flowing transverse to the probe at rate equivalent to gas velocities between 10 and 30 metres per second.

7. (Currently amended) A method according to claim 5, wherein the catalyst or sorbent is contained within an inner ~~elongated perforate~~ container fixed within an outer ~~perforate~~ container, said inner container having at least one orifice in the upstream region and at least one orifice in the downstream region and baffles between the outer perforate container and said inner container ~~divide dividing~~ said upstream region from said downstream region ~~such that and direct the flow of the process fluid flows~~ in a substantially axial or transverse manner through said catalyst or sorbent.
8. (Currently amended) A method according to claim 7, wherein mesh dividers are present to ~~segregate separate~~ catalyst or sorbent into separate beds within the inner container.
9. (New) An instrument according to claim 1, wherein said inner container is a non-perforate cylinder which is open ended and disposed within the outer container such that the process fluid is able to pass through the ends of the inner container and thereby axially through a bed of catalyst or sorbent contained therein.
10. (New) An instrument according to claim 9, wherein a perforated member is provided at each end of the inner container for supporting the catalyst or sorbent contained therein.
11. (New) An instrument according to claim 1, wherein the inner container is bounded by a wall or walls provided with orifices.
12. (New) An instrument according to claim 11, wherein the inner container has from 1 to 50 orifices in its walls.
13. (New) An instrument according to claim 1, wherein the arrangement of baffles connecting the outer container and the inner container is adapted to direct the process fluid stream to follow a serpentine path through the annulus between the cylinders before entering the catalyst or sorbent.

14. (New) An instrument according to claim 13, wherein said inner container is a non-perforate cylinder which is open ended and disposed within the outer container such that the process fluid is able to pass through the ends of the inner container and thereby axially through a bed of catalyst or sorbent contained therein.
15. (New) An instrument according to claim 14, wherein a perforated member is provided at each end of the inner container for supporting the catalyst or sorbent contained therein.
16. (New) An instrument according to claim 1, wherein the outer container has from 1 to 25 orifices in its walls.
17. (New) A process according to claim 5, wherein the catalysts or sorbent contained in the inner container is selected from the group consisting of metal oxides or mixtures of metal oxides or hydroxides, sulphides, carbonates and metals supported on an oxide support.
18. (New) A process according to claim 17 wherein the catalysts or sorbent contained in the inner container is selected from the group consisting of zinc oxide, iron oxide, copper oxide, chromium oxide, copper sulphide, copper carbonate, and a metal selected from copper, cobalt, nickel, molybdenum, platinum or ruthenium said metal being supported alumina, silica, an aluminosilicate, titania, zirconia, activated carbon or a zeolite.
19. (New) A process according to claim 5, wherein the volume of the catalyst or sorbent contained within the inner container is from 0.5 to 100 cm<sup>3</sup>.
20. (New) A process according to claim 5, wherein the catalyst or sorbent contained within the inner container is in the form of particles having a size between 0.5mm and 15 mm.